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Notes on the seabirds of Wallis and Futuna Islands, southwest Pacific Ocean

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The French overseas territories of Wallis and Futuna Islands are located to the northeast of the Fijian islands, at 176°–178°W, and c. 14°S. Biogeographically they belong to the Samoa-Wallis province as defined by the South Pacific Commission (Dahl 1980). Wallis consists of a principal island, Uvea or Uea, which is surrounded by a lagoon with 20 islets of coral or volcanic rock, and Futuna and Alofi (Horne Islands) are situated c. 200 km to the southwest of Wallis. Alofi is less than 2 km from Futuna.

These 3 islands are located near the centre of a vast 1000 km-sided triangle of ocean delimited by the archipelagos of Tuvalu to the north, Samoa to the east and Fiji to the southwest. Because of their isolation they are of special significance as breeding stations for seabirds.

Uvea (96 km^2) is a volcanic island with little relief (maximum elevation 145 m); it offers few possibilities for nesting seabirds, except on the crags

which surround the crater lake of Lalolalo. In addition, the islets of the lagoon have nesting seabirds, with large colonies on 3 of them.

Futuna (80 km²) is also of volcanic origin, but much more ancient than Wallis; it reaches a maximum elevation of 480 m, and nesting seabirds occur principally in valleys of the interior.

Alofi (c. 35 km²) is a volcanic island of the same type as Futuna. It is completely forested, with a summit at 400 m. Colonies of breeding seabirds are present at the southwestern point, where they nest on trees and cliffs. Futuna and Alofi lack both lagoons and islets, having only a small coral platform; consequently, their coasts are exposed directly to the ocean waves.

Previous accounts of the seabirds of these islands are limited to notes by Finsch & Hartlaub (1867) on one species collected on Wallis by Gräffe in 1862; and notes on 4 species by J. G. Correia (MS.) in the journal of his visit during the Whitney South Sea Expedition in 1925. Correia mainly collected land birds during his brief visit; his journal records that he visited only 5 islets, all of them inhabited and of no special interest for seabirds.

During a stay on Futuna that began in 1842, a missionary, Père Servant, recorded the local names of seabirds nesting on Futuna and Alofi (see Rensch 1985). Two dictionaries, for the languages of Futuna (Grézel 1878) and of Wallis (Bataillon 1932), also give names of seabirds.

Our own studies were carried out during a visit to the 3 islands from 3 December 1985 to 30 January 1986 (21 days on Wallis, 35 days on Futuna and Alofi). On Wallis we explored much of Uvea, notably around all the volcanic lakes and on 9 of the islets in the lagoon (not visited by Correia) that appeared the best for breeding seabirds. On Futuna we visited all the coasts and most of the valleys of the interior, and on Alofi we were able to make detailed searches of coasts and the interior.

In view of the paucity of published data on seabirds in this part of the southwest Pacific we are summarising our observations in this paper. A fuller account of all the birds of Wallis and Futuna will appear later. In the systematic list below we give the best known local names for each species (W= on Wallis; F= on Futuna and Alofi).

SPECIES ACCOUNTS

RED-TAILED TROPICBIRD *Phaethon rubricauda* (W=Tavake)

Breeds occasionally on Wallis in small numbers. *Wallis.* A single sighting; one adult above an islet of the lagoon, 13 Dec. We were told that a pair nested recently in 2 successive years on another of the islets (G. Pambrun).

WHITE-TAILED TROPICBIRD *Phaethon lepturus* (W, F=Tavake)

Breeds regularly on all 3 islands in small numbers. *Wallis.* Aerial display seen near crater lakes on Uvea; possibly also nests on northern islets. *Futuna.* Several individuals displaying along the sea cliffs, above the trees in valleys inland and at the southeastern point of the island. *Alofi.* Seen singly and in twos or threes, displaying above forests of the interior and along the cliffs of the south coast. Reported by Correia at Wallis and Futuna. According to Servant, local people considered that it nests on Futuna.

RED-FOOTED BOOBY *Sula sula* (W, F=Gutulei)

Breeds abundantly on 2 of the 3 islands. We saw similar numbers of light-phased and dark-phased birds. *Wallis.* Colonies established in trees on 3 islets in the northern part of the lagoon and perhaps nesting on a fourth islet in the south. Incubation Dec and Jan; nestlings also present Jan. *Alofi.* Present only in the coastal forest of the southwestern point of the island, where there were both breeding and non-breeding birds (several thousands of individuals in roosts). Known to local people as a nesting bird on both islands.

BROWN BOOBY *Sula leucogaster* (W, F=Gutulei)

An uncommon breeding bird on 2 islands. *Wallis.* Several dozen pairs nesting on an islet in the north of the lagoon (building, Dec and Jan, incubation Jan). *Alofi.* 5 birds sitting on nests on a herb-covered ledge of a small sea-cliff on the southwest coast on 22 Jan. Several immatures seen in flight near the colony the same day.

GREATER FRIGATEBIRD *Fregata minor* (W, F=Katafa)

Undoubtedly regular as a visitor, but in small numbers. Frigatebirds of uncertain species were seen flying above all 3 islands, of which 2 were definitely *minor*; at least one bird (male) was seen 13 Dec above an islet in the lagoon of *Wallis,* and 2 (one male, one immature) on 29 Dec at *Alofi.*

LESSER FRIGATEBIRD *Fregata ariel* (W, F=Katafa)

Perhaps nests at Wallis and Alofi. Seen regularly and reliably identified at all 3 islands. *Wallis.* Commoner than elsewhere, with up to 50 above islets in the lagoon, Dec. No nesting or display seen except for a male with inflated throat pouch perching in a tree beside a female, close to nests of *Sula sula* (Jan). *Alofi.* Not common, but visits the coasts. The only indication of possible nesting activity was a male with inflated throat pouch seen 29 Dec not far from the colony of *Sula sula. Futuna.* Regular visitor along the coasts.

BLACK-NAPED TERN *Sterna sumatrana* (W=Talagogo)

Nests in small numbers at Wallis; a visitor to Alofi. *Wallis.* Seen regularly in the lagoon; also fishing occasionally in an inland lake (Kikila). Nests on an islet in the north of the lagoon: on 13 Dec adults seen displaying and laying had begun; on 25 Jan c. 15 pairs nesting. Breeding seems certainly regular – a colony of c. 20 birds (with eggs and chicks) was photographed on the same islet in 1983 (M. Ruotolo). *Alofi.* 2-3 non-breeding birds were seen Dec and Jan. Not previously reported nesting in the "Samoa-Wallis province", although it nests on Tonga and Fiji (Garnett 1984).

BRIDLED TERN *Sterna anaethetus* (W=Talagogo?)

Seen only at *Wallis,* where it breeds. 2 colonies of 4-5 pairs each were found on separate islets in the north of the lagoon (8 and 13 Dec, 25 Jan). On each visit the birds were in pairs and alarmed by our presence. When we left they appeared to be very attached to their site, returning immediately, to land in inaccessible places, where some birds appeared from their stance to be incubating (Dec). Seen once crossing the lagoon to the south of Uvea (2 birds, 27 Jan). Because of difficulties in identifying species in this group of terns, *Sterna fuscata-lunata-anaethetus* (see

Harrison 1983, Watling 1982), we wish to emphasise that our identification is based on prolonged observations and supported by field sketches. In this part of the Pacific, *S. anaethetus* had previously been reliably reported only on Fiji and it was of uncertain status in the "Samoa-Wallis province" (Garnett 1984).

SWIFT TERN *Sterna bergii*

Visitor. A single sighting of an immature in the lagoon at Wallis, 28 Jan.

BROWN NODDY *Anous stolidus* (W, F=Gogo)

Nests on all 3 islands. *Wallis*. Nests on the crags around the crater lake of Lalolalo on Uvea (sitting birds and nestlings, Dec); also nests in larger numbers on 4 islets (sitting birds and nestlings, Dec and Jan) on cliffs and in trees. Probably also nests on several other large islets in the lagoon. *Futuna*. The commonest tern. Large flocks seen offshore daily. Nests in trees, locally near the coast and in large numbers from the upper parts of the valleys down to 200 m elevation. *Alofi*. Uncommon and very local. Definitely nests in one locality (coastal cliff) and probably in 2 other coastal sites (in trees). Reported from Wallis and Futuna by Correia. Known as a breeding bird to the inhabitants of all 3 islands.

BLACK NODDY *Anous tenuirostris* (W=Gogo)

Seen only at *Wallis*, where it nests abundantly. Noted daily fishing near reefs in the lagoon, where it was more abundant than *A. stolidus* and *Gygis alba*. Did not appear to be nesting on Uvea, although groups of 10-50 birds were frequently found resting in coastal vegetation. Breeding was confirmed on 4 islets and suspected on at least one other. Nest-building and sitting birds were seen, Dec, and fledged juveniles, Jan. This species was collected at Wallis by Gräffe in 1862 (Finsch & Hartlaub 1867) and seen there by Correia, April 1925.

WHITE TERN *Gygis alba* (W=Tala; F=Aki Aki)

Nests on all 3 islands. *Wallis*. Seen in twos and threes in many places near the coast and inland, but we saw no real evidence of nesting. However, breeding was confirmed on 3 islets and suspected at another (sitting birds Dec and Jan; nestlings Dec and Jan; fledged juveniles Jan). *Futuna*. Seen regularly at sea. Nests near the coast, but more abundantly in the valleys inland and up to the highest elevations. *Alofi*. Surprisingly scarce at this wooded island, where suitable nest sites appear to be plentiful. We saw displays at the edges of forests and plantations but did not obtain proof of nesting. This species was collected by Correia (MS.) at Wallis and seen by him at Futuna. According to local tradition, it has been known for many years to breed at Wallis and Futuna.

Discussion

The breeding seabird populations known from these 3 islands are not of great importance. Nonetheless, their diversity at Wallis merits attention, especially as there are 2 species that are uncommon in the region (*Sterna sumatrana*, *S. anaethetus*).

Although our observations are likely to have revealed all the breeding species of Pelecaniformes and Sternidae, it is likely that Procellariiformes escaped our attention. The dictionaries by Grézel (1878) and Bataillon

(1932) mentioned the vernacular name "Kuka". Local people on Wallis and Futuna told us that this bird is nocturnal, of a generally brown colour, very rarely seen and that when it flies over a house calling it is regarded as an omen. Very similar reports given to one of us (JCT) in the Society and Marquesas Islands are referable to *Puffinus* spp. According to descriptions from G. Pambrun (of Wallis) it appears that Kuka has the behaviour and nocturnal habits of a *Puffinus* sp. and that it nests in cavities on one or two of the islets at Wallis. Our searches with J. Pambrun revealed nothing. Similarly, on Futuna, where local inhabitants knew the name, they did not know where to find the birds. This vernacular name has not been reported in other Polynesian languages (Holyoak & Thibault 1984, Watling 1982).

Another petrel, *Pterodroma leucoptera*, might nest in the mountains of Futuna, but our searches were fruitless. This species has been found at Gau, Fiji (Watling & Lewanavanua 1985) in a type of habitat that exists on Futuna.

Table 1 summarises the numerical status of the breeding seabirds. Most species are present only in small numbers, although some of those that feed at sea, especially *Sula sula*, are more plentiful. It is also noteworthy that *Sterna fuscata* is absent from the 3 islands. Several factors may explain this situation, but especially disturbance by man. On the inhabited islands of Uvea and Futuna (with 8084 and 4324 inhabitants respectively in 1983) the coasts are inhabited and cultivated and seabirds nest only in the least disturbed regions. The very small islets in the north of the lagoon at Wallis have interesting seabird colonies but they are not subject to any conservation measures. On these islets the occasional disturbance from fishermen, cultivators and walkers limit the possibilities for breeding seabirds. Furthermore, the development of excursions to visit "les îles aux oiseaux"

TABLE 1

SPECIES	WALLIS	FUTUNA	ALOFI	"SAMOA-WALLIS" PROVINCE
Puffinus pacificus	–	–	–	?B
Puffinus lherminieri	–	–	–	?B
Phaethon rubricauda	B1	–	–	?B
Phaethon lepturus	B2	B2	B1	B
Sula sula	B3	–	B3	B
Sula leucogaster	B1	–	B1	B
Fregata ariel	?	–	?	–
Sterna fuscata	–	–	–	B
Sterna anaethetus	B1	–	–	?
Sterna lunata	–	–	–	?
Sterna sumatrana	B2	–	–	–
Procelsterna cerulea	–	–	–	?B
Anous stolidus	B3	B3	B2	B4+
Anous tenuirostris	B4	–	–	B
Gygis alba	B3	B4	?	B4+

Table 1. Comparison of the status of breeding seabirds on Wallis, Futuna and Alofi, Dec 1985-Jan 1986, and in the "Samoa-Wallis province" (after Garnett 1984).

B=breeds. B1=breeds, population estimated at 1-9 pairs. B2=breeds, 10-99 pairs. B3=breeds, 100-999 pairs. B4=breeds, 1000-9999 pairs. ?=may breed, status uncertain. –=not recorded breeding. ?B=breeding suspected, but not recently proved.

constitutes a serious threat to the colonies. Species nesting on the ground (*Sterna* spp., *Phaethon rubricauda*) are particularly at risk because of human disturbance and the presence of rats, dogs and pigs on most of the islets. At Wallis we noted that *Sula sula* was trapped for food, and at Futuna the capture of *Anous stolidus*, *Gygis alba* and *Phaethon lepturus* is not rare. However, it is impossible to evaluate the importance of such predation.

The absence of *Anous tenuirostris* at Futuna and Alofi may be related to the absence there of lagoons, because at Wallis this species feeds mainly in the lagoon. The small numbers of medium-sized seabirds (*G. alba*, *A. stolidus*, *P. lepturus*) at Alofi and in the eastern part of Futuna are surprising (see Table 1). On these islands there are vast wooded zones that are either isolated or little disturbed and which appear suitable for nesting seabirds. It is possible that the limiting factor here is the presence of an arboreal snake, the Fiji Python (*Candoia bibronii*), which might be a predator of eggs and nestlings.

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